IN THE CLAIMS

1. (Currently amended) A method of probing for a nucleic acid comprising: contacting a nucleic acid solution with an oligonucleotide probe labeled with an electrochemically active marker; providing conditions at which the oligonucleotide probe is able to at least partially hybridize with any complementary target nucleic acid sequence which may be present in the nucleic acid solution; selectively degrading ~~either~~ hybridized ~~, partially hybridized or unhybridized~~ oligonucleotide probe, the degrading resulting in degraded oligonucleotide probe; and electrochemically determining ~~information relating to~~ the activity of the electrochemically active marker, wherein the electrochemical activity of ~~information relating to~~ the electrochemically active marker exhibits different electrochemical characteristics depending on (a) whether or not it is attached to a nucleotide, (b) whether or not that nucleotide is incorporated into the oligonucleotide or not, and (c) the length of the oligonucleotide, and wherein the different electrochemical characteristics are a change to the activity of the electrochemically active marker of the degraded oligonucleotide probe compared with the activity of the electrochemically active marker of non-degraded oligonucleotide probe ~~correlates with the presence of the nucleic acid~~ and wherein the electrochemical activity of ~~information relating to~~ the electrochemically active marker correlates with the size ~~and characteristics~~ of the degraded [[or]] and the non-degraded oligonucleotide probe, the method resulting in probing for the nucleic acid.

2. (Previously presented) A method as claimed in claim 1 wherein the electrochemically determined information relating to the marker is used to derive information concerning the presence or absence of at least one nucleic acid species.

3. (Previously presented) A method as claimed in claim 1 wherein the electrochemical technique is used to quantify relative proportions of degraded and non-degraded oligonucleotide probe.

4. (Previously presented) A method as claimed in claim 1 wherein oligonucleotide probe that has failed to successfully hybridize is digested by an enzyme that has been chosen to selectively digest single stranded unhybridized nucleic acid.

present in the nucleic acid solution; selectively digesting hybridized oligonucleotide probe using a duplex specific exonuclease; and electrochemically determining ~~information relating to~~ the activity of the electrochemically active marker, wherein the ~~electrochemically determined information relating to~~ electrochemical activity of the electrochemically active marker exhibits different electrochemical characteristics depending on (a) whether or not it is attached to a nucleotide, (b) whether or not that nucleotide is incorporated into the oligonucleotide or not, and (c) the length of the oligonucleotide, and wherein the different electrochemical characteristics are a change to the activity of the electrochemically active marker of the degraded oligonucleotide probe compared with the activity of the electrochemically active marker of non-degraded oligonucleotide probe ~~correlates with the presence of the nucleic acid~~ and wherein the electrochemical activity of ~~electrochemically determined information relating to~~ the electrochemically active marker correlates with the extent of digestion of the oligonucleotide probe, the method resulting in probing for the nucleic acid.

110. (Previously presented) A method as claimed in claim 109 wherein the exonuclease is selected from the group consisting of a duplex specific exonuclease, a 5'-3' exonuclease, a 3'-5' exonuclease, and T7 nuclease.

111. (Previously presented) A method as claimed in claim 109 wherein the exonuclease is a 5'-3' exonuclease.

112. (Previously presented) A method as claimed in claim 109 wherein the electrochemically determined information relating to the marker is used to derive information concerning the presence or absence of at least one nucleic acid species.

113. (Previously presented) A method as claimed in claim 109 wherein the electrochemical technique is used to quantify relative proportions of degraded and non-degraded oligonucleotide probe, if present.

114. (Previously presented) A method as claimed in claim 111 wherein the 5'-3' nuclease is also a DNA polymerase.